

## REMARKS/ARGUMENTS

Reconsideration of this application is requested. Claims 1-21 are in the case.

### **Claim Amendment**

Claim 1 has been amended to replace the phrase "the microprocessor being connected to the display device" with the phrase "the microprocessor being connected to the display array" (emphasis added). This amendment was made as the term "the display device" had no antecedent.

### **Claim Rejections – 35 U.S.C. 102(b) and 103(a)**

The Examiner rejected claims 1, 3, 5, and 6, as being anticipated by US Patent 6,492,963 (Hoch). In addition, the Examiner rejected claims 8-10 and 12, as being anticipated by US Patent No. 6,030,106 (Johnson).

Further, the Examiner rejected claims 2 and 4 as being obvious in view of Hoch, and rejected claims 7 and 11 as being obvious in view of the combined teachings of Hoch and Johnson.

These rejections are respectfully traversed. Before addressing this argument in detail, the invention and its relationship to the known art are summarized below.

### **Background and Summary of the Invention**

The present invention relates to a method and apparatus for displaying an image on a rotatable object by timing the display of the image to correspond to a particular position of the wheel and relying on the persistence of vision of a viewer.

Advertising space at automobile and cycling racing events is very valuable. This space is even more valuable where it is centrally located, such as on the automobile or the bicycle itself, such that spectators' eyes are naturally drawn to the advertising display. Advertising space may be available on the surface of the wheels or

tires. However, there are a number of drawbacks to providing displays on to these available surfaces using prior art methods such as Hall-effect sensors.

First, racing cars often will not provide a suitable space on which a magnet of a Hall-effect sensor, such as that disclosed in Hoch, can be mounted, as the wheels project out from the sides of the car. Even if the magnet can be mounted on the car, this installation is likely to be a technically demanding task, as the magnet must be aligned with the portions of the Hall-effect sensor mounted on the wheel. Even if the magnet is initially aligned with the sensor, it may become unaligned during the race due to the stresses experienced by both the vehicle and the wheel/tire, or due to heating during, for example, braking. Thus, installation of a Hall-effect sensor or similar sensor that is not self-contained will typically be expensive and time-consuming, and malfunction will be a frequent occurrence. In contrast, a self-contained sensor in accordance with aspects of the present invention will typically be entirely installed in the factory by the manufacturer of the wheel or tire, which will typically be both less expensive and more reliable.

Other advantages also flow from the fact that a self-contained sensor in accordance with aspects of the present invention will typically be entirely installed in the factory by the manufacturer of the wheel or tire. For example, balance or weight distribution is critically important in vehicular components, and will be easier to control in a manufacturing setting compared to subsequently retrofitting a vehicle wheel/tire with a sensor. The total weight of the sensor can also be reduced by eliminating heavier external elements such as magnets.

### **Detailed Reply to Claim Rejections**

As discussed by the Examiner, Hoch discloses a Hall-effect sensor for sensing rotational speed. However, this rotational speed sensor is not self-contained as it requires a magnet to be mounted to the vehicle for correct operation, and thus suffers from the drawbacks described above. Further, Johnson does not disclose such a self-contained sensor. Thus, it is respectfully submitted that claim 1 is novel in view of the cited prior art.

For the reasons outlined above in the discussion of the prior art, it is respectfully submitted that the use of the self-contained sensor in the place of a sensor such as a Hall-effect sensor that requires a magnet to be mounted to the vehicle is unobvious. Specifically, this self-contained rotational speed sensor significantly improves the practicality of the display apparatus by making installation easier and less costly, and operation more reliable. Despite these advantages, however, a self-contained rotational sensor is nowhere disclosed in any of the prior art cited.

In view of the foregoing, it is respectfully submitted that claim 1-12 are allowable over the cited references. In view of this, and in view of the Examiner's previous determination that claims 13-21 are allowed, allowance of the application is respectfully requested.

If any questions arise, it is requested that the undersigned be contacted at the number below.

Respectfully submitted,

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